

REMARKS

Please cancel Claim 17 without prejudice. New Claims 47-51 are added. Claims 16, 18-30 and 47-51 are pending. Claims 16, 18 and 21-23 are amended herein. Support for the amendments of Claims 21 and 22 is provided at least by Figure 5 of the instant application. Support for new Claims 47-49 and 51 is provided at least by Figures 1B and 4. Support for new Claim 50 is provided at least at page 7, lines 11-12, of the instant application.

112 Rejections

Claims 16 and 18-30

According to the instant Office Action, Claims 16 and 18-30 are rejected under 35 U.S.C. § 112, first paragraph. Applicants respectfully assert that, as amended, the specification contains a written description that would enable one skilled in the art to make and/or use the claimed invention, because it is expected that a person of ordinary skill in the art would know of and understand the information provided by, for example, U.S. Patent No. 6,459,095, which is referenced in the instant application, is in the public domain, and addresses the issues raised in paragraph 3 on page 2 of the instant Office Action. Accordingly, Applicants respectfully submit that the rejection of Claims 16 and 18-30 under 35 U.S.C. § 112, first paragraph, is traversed.

Claims 20-22

According to the instant Office Action, Claims 20-22 are rejected under 35 U.S.C. § 112, second paragraph. According to the instant Office Action, these claims describe a bipolar junction

transistor. Applicants respectfully note that Claim 20 does not necessarily recite a bipolar junction transistor. In light of this as well as the amendments to Claims 21-22, Applicants respectfully submit that the rejection of Claims 20-22 under 35 U.S.C. § 112, second paragraph, is traversed.

102 Rejections

Meyers et al.

According to the instant Office Action, Claims 16 and 18-30 are rejected under 35 U.S.C. § 102(b) as being anticipated by Meyers et al. ("Meyers;" U.S. Patent No. 5,665,618). The Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 16 and 18-30 is not anticipated nor rendered obvious by Meyers.

Specifically, Applicants respectfully submit that Meyers does not show or suggest "providing a first said wire ... wherein said first wire comprises a semiconductor material, ... wherein a dimension of said first wire in the direction of the shortest line between said pair of crossed wires is nanoscopic" as recited in independent Claim 16, and respectfully disagree with statements to the contrary in the instant Office Action. Specifically, the instant Office Action states that, according to Meyers, "the spacing is inherently nanoscopic." However, Claim 16 is not directed to spacing (presumably, reference is being made to the spacing between the crossed wires). Instead, Claim 16 recites that the first wire (specifically, the wire comprising a semiconductor material) itself has a dimension that is nanoscopic. The dimension recited is the dimension in the direction of the

shortest line between the pair of crossed wires. If, for example, the first wire has a circular cross-section, then the dimension recited in Claim 16 would be the diameter of the wire.

Therefore, Applicants respectfully submit that Meyers does not show or suggest the present claimed invention recited in independent Claim 16, and that Claim 16 is considered patentable over Meyers. Because Claims 18-30 depend from Claim 16 and contain additional limitations, these claims are also considered patentable over Meyers. Therefore, Applicants respectfully submit that the rejection of Claims 16 and 18-30 under 35 U.S.C. § 102(b) based on the Meyers reference is traversed.

Frazier et al.

According to the instant Office Action, Claims 16 and 18-30 are rejected under 35 U.S.C. § 102(b) as being anticipated by Frazier et al. ("Frazier," U.S. Patent No. 5,646,418). The Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 16 and 18-30 is not anticipated nor rendered obvious by Frazier.

Specifically, Applicants respectfully submit that Frazier does not show or suggest "providing a first said wire ... wherein said first wire comprises a semiconductor material, ... wherein a dimension of said first wire in the direction of the shortest line between said pair of crossed wires is nanoscopic" as recited in independent Claim 16, and, for the reasons presented above, respectfully disagree with statements to the contrary in the instant Office Action.

Therefore, Applicants respectfully submit that Frazier does not show or suggest the present claimed invention recited in independent Claim 16, and that Claim 16 is considered patentable over Frazier. Because Claims 18-30 depend from Claim 16 and contain additional limitations, these claims are also considered patentable over Frazier. Therefore, Applicants respectfully submit that the rejection of Claims 16 and 18-30 under 35 U.S.C. § 102(b) based on the Frazier reference is traversed.

Conclusions

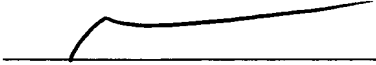
Based on the amendments and remarks presented above, Applicants respectfully assert that Claims 16 and 18-30, as well as new Claims 47-51, are allowable and, therefore, Applicants respectfully solicit allowance of these claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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